Final Report- Exploring Weather Trends

```
##checking city name
SELECT * FROM city_list
where city = 'Dublin'

##retrieving city data
SELECT * FROM city_data
where city = 'Dublin'

##retrieving global weather data
SELECT * FROM global_data
```

The data was downloaded from using SQL from the Udacity database. There were preliminary charts prepared by visualising the data. However, there were no helpful insights with it.

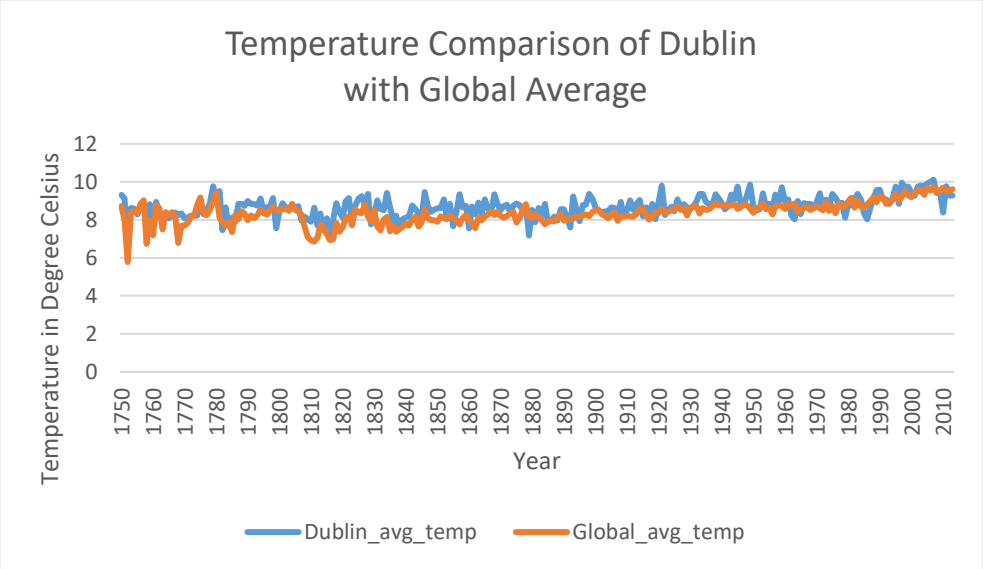
The second step was to calculate the moving average which was done using the average function. Udacity helped in giving an example for the preparation of the moving average. Moving average was calculated for 10 year, 20 year and 50 year timeframes

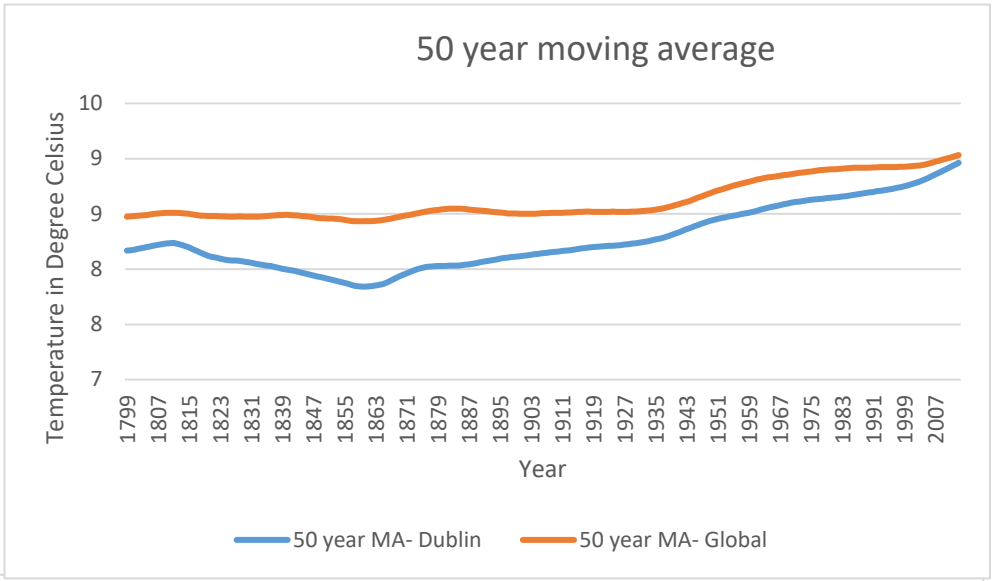
To calculate moving average on the data set, we used Excel Formulae:

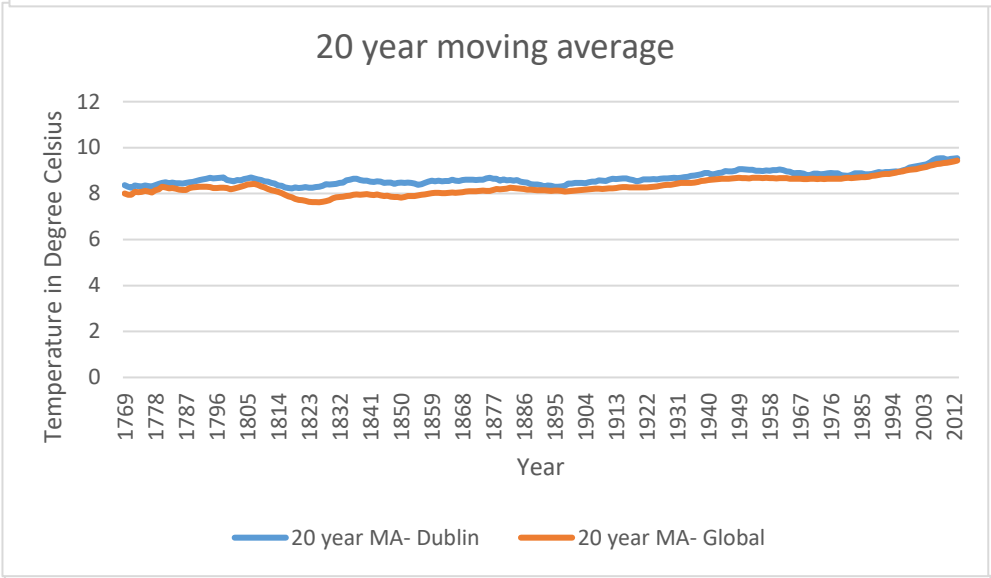
```
##AVERAGE(B2:B51)
##AVERAGE(C2:C51)
```

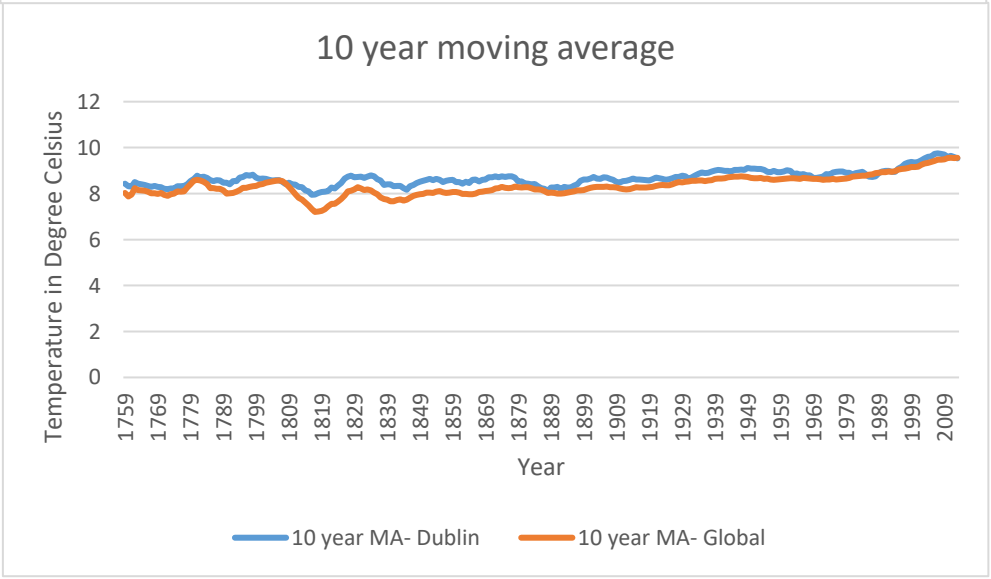
All the data was visualised. They key considerations, when visualising the trends were:

1. They visualisations should be clear and legible
2. Subtle colours which show clear differentiation were used
3. clear legends were added
4. Line charts were most helpful
5. Moving average could be plotted on the chart




50 year moving average
Temperature in Degree Celsius
10
9
9
8
8
7
1799
1807
1815
1823
1831
1839
1847
1855
1863
1871
1879
1887
1895
1903
1911
1919
1927
1935
1943
1951
1959
1967
1975
1983
1991
1999
2007
Year
50 year MA- Dublin
50 year MA- Global


20 year moving average
Temperature in Degree Celsius
12
10
8
6
4
2
0
1769
1778
1787
1796
1805
1814
1823
1832
1841
1850
1859
1868
1877
1886
1895
1904
1913
1922
1931
1940
1949
1958
1967
1976
1985
1994
2003
2012
Year
20 year MA- Dublin
20 year MA- Global


10 year moving average
Temperature in Degree Celsius
12
10
8
6
4
2
0
1759
1769
1779
1789
1799
1809
1819
1829
1839
1849
1859
1869
1879
1889
1899
1909
1919
1929
1939
1949
1959
1969
1979
1989
1999
2009
Year
10 year MA- Dublin
10 year MA- Global

Observations- The four key observations from the data are:
1. The average temperature of Dublin is higher than the global average
2. There has been consistent increase in the average temperature throught the years
3. From 1925 there has been a sharp increase in the temperature of the world and Dublin both
4. Dublin temperature directly correlates to the global temperature

Conclusion- The Correlation between Dublin and Global Average temperature of 0.65 which shows that Dublin and global weather are directly and proportianately co related to each other.

##Correl(B2:265, C2:C265)